

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number  
**WO 03/103811 A1**

(51) International Patent Classification<sup>7</sup>: **B01D 57/02**, C07K 1/26

(21) International Application Number: PCT/US03/17300

(22) International Filing Date: 3 June 2003 (03.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 10/163,885 5 June 2002 (05.06.2002) US

(71) Applicant (*for all designated States except US*): THE TEXAS A & M UNIVERSITY SYSTEM [US/US]; 3369 Tamu, College Station, TX 77843-3369 (US).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): VIGH, Gyula [US/US]; College Station, TX 77842 (US).

(74) Agents: VEITENHEIMER, Erich, E., III et al.; Morgan, Lewis & Bockius, LLP, 1111 Pennsylvania Avenue, N.W., Washington, D.C. 20004 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A1

WO 03/103811

(54) Title: METHOD FOR PH-BIASED ISOELECTRIC TRAPPING SEPARATIONS

(57) **Abstract:** A method for separating an ampholytic component by electrophoresis, the method involving placing a sample containing an ampholytic component having a pl value in an electrophoresis separation system comprising an anolyte having a pH and a catholyte having a pH, the catholyte pH being higher than the anolyte pH, one or more ion-permeable barriers disposed between the anolyte and catholyte wherein at least one of the barriers is an isoelectric barrier having a pl value which is higher than the anolyte pH and lower than the catholyte pH; providing an isoelectric buffer having a pl value higher than the pH of the anolyte and lower than the pH of the catholyte and different from the pl value of the ampholytic sample component and different from the pl value of an ion-permeable isoelectric barrier; and exposing the sample to an electric potential so as to trap the ampholytic sample component in a non-isolectric state in the presence of the isoelectric buffer in the electrophoresis system.